hp StorageWorks
Business Copy EVA/MA/EMA
Windows Registry Utility

Product Version: EVM 2.0D and BC 2.1, 2.1a, 2.2, 2.3

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This document describes the HP StorageWorks Business Copy (BC) Windows® Registry Utility v1.1 for Microsoft® Windows 2000 and Windows Server 2003 environments.

For the latest version of these Release Notes and other Business Copy documentation, access the BC web site at: http://h18006.www1.hp.com/products/storage/software/bizcopyeva/index.html.

About this document

This section describes the content reflected in this document, including:

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Release Notes information

These Release Notes cover the following major topics:

- About the BC Windows Registry Utility, page 4
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Intended audience

This document is for customers who have purchased EVM v2.0D, BC v2.1, BC v2.1a, BC v2.2, or BC v2.3, and have host systems running supported Windows 2000 or Windows Server 2003 software with the BC Windows host agent software installed.

Other BC documentation

Additional Business Copy documentation, including white papers and best practices documents, is available at the BC web site:
http://h18000.www1.hp.com/products/storage/software/bizcopyeva/index.html.

Provide feedback on BC by sending e-mail to: BCFeedback@hp.com.

About the BC Windows Registry Utility

This BC Windows Registry utility v1.1 replaces utility v1.0 and adds support for Windows Server 2003 and BC v2.2 and v2.3.

Every time a new device is mounted, the supported Windows 2000 or Windows Server 2003 operating system creates new keys in the registry, resulting in a growth of about 4 KB for each mount. Removing the device does not remove the keys. When the registry reaches the size of 16 MB, the system will not boot after a restart. This Windows operating system problem is documented in the Microsoft KB article: Q269075 at the following Microsoft web site: http://support.microsoft.com/default.aspx?scid=kb;en-us;269075.

The BC Windows Registry utility (BCRegClean) is a stand-alone utility that searches the Windows registry and cleans up unused registry entries created within the System hive. By using this utility on a regular basis, you can reduce the possibility of host system reboot failures caused by the registry reaching the limit of 16 MB.

Who should use this utility

To use the BC Windows Registry effectively, HP recommends assigning a person with experience in configuring and administering supported Windows environments and the Windows registry. This utility is only applicable to:

- Systems running Windows 2000 or Windows Server 2003 software with the BC Windows host agent software installed
- EVM v2.0D, BC v2.1, BC v2.1a, BC v2.2, and BC v2.3 host agents

When to use this utility

Monitoring the registry growth is the key to avoiding system reboot failures. Assuming there are no other factors contributing to the growth of the registry, a registry typically takes several thousand mount operations before this problem manifests. Check the size of the system file (\WINNT\System32\Config\ system) on a regular basis, and run the BC Windows Registry utility before the registry reaches 13 MB.

Note: Use this utility on all BC Windows host agent systems that meet the criteria described in the Microsoft KB article Q269075 at: http://support.microsoft.com/ default.aspx?scid=kb;en-us;269075.

Requirements

Table 1 lists requirements for using the BC Windows Registry utility.

Table 1: Requirements and support

This version...	Is applicable to...
BC Windows Registry utility v1.1	■ EVM v2.0D ■ BC v2.1 ■ BC v2.1a ■ BC v2.2 ■ BC v2.3
	BC Windows host agent systems on one of the following hosts: ■ Windows 2000 Advanced Server (SP2, SP3, or SP4) ■ Windows 2000 Datacenter (SR2) ■ Windows Server 2003 Enterprise Edition

Installing and using the BC Windows Registry utility

Follow these steps for installing and using the BC Windows Registry utility.

Step 1: Download and install the BC Windows Registry utility

(Option step for subsequent uses of the utility following initial installation.)

1. Access the BC web site: http://h18000.www1.hp.com/products/storage/software/bizcopyeva/index.html.

2. Download the BC Windows Registry utility kit (`RegClean_V1_1.exe`) to a local drive.

3. Double-click the executable to extract two files into a local directory.

4. Copy the BC Windows Registry utility (`BCRegClean_setup.exe`) to each host system and install the utility using the default directory or a directory of your choice.

Note: To install this utility, you must be a member of the Administrators or Power users group on the host system.

Step 2: Backup existing registries

1. On each host system, back up the existing Windows registry using one of the following methods:

   Method 1: Windows Registry Editor (regedit)

   a. Start the Registry Editor.

   b. Click **Registry > Export Registry File**.

   c. Click **All** for the Export Range, or specify the KEY/HIVEs to back up.

   d. For future recovery, record the location of the KEY/HIVEs.

   Method 2: Windows Backup Utility

   a. Start the Backup utility.

   b. Choose a method based on the OS type:

   For Windows Server 2003, click **Tools > ASR Wizard** and follow the wizard.

For Windows 2000, click **Tools > Create an Emergency Repair Disk**.

On the Emergency Repair Diskette dialog box, make sure that you click, "**Also backup the registry to the repair directory. This backup can be used to help recover your system if the registry is damaged.**"

Note: The SYSTEM key is automatically saved in the following directory: `%SYSTEMROOT%WINNT\REPAIR\REGBACK.`

Step 3: Check job status

For each host system, make sure that no BC jobs are running or are scheduled to run, and that jobs are in the UNDO COMPLETE state.

Step 4: Run the BC Windows Registry utility

On each host system, run the BC Windows Registry utility as follows:

1. From the desktop, click **Start > Programs > Hewlett-Packard > BCRegClean**.

2. Click **List** to review the data to be removed.

3. Click **Registry has been backed up**.

4. Click **Clean** to start the cleanup process.

    If the system is a cluster node, you will be prompted to ensure all pertinent cluster disk resources are online to the node.

Note: Sometimes the system file does not decrease in size (as displayed in Windows Explorer) after running the BC Windows Registry utility. This occurrence is not a problem. The utility creates "white space" in the registry where the data displayed in the "list" dialog box used to reside.

Note: To restart the BC Windows Registry utility, click **File > Clean Registry**.

Known problems

This section lists known problems and provides workarounds.

Error: cluster disk resource disk x: is not online to this node...

Description: Upon initialization of the BC Windows Registry utility, a pop-up window displays the following error:

```
Cluster Disk Resource Disk X: is NOT online to this
node. All Cluster Disk Resources must be online to this
node prior to cleaning the registry of inactive device
entries. Please move/fail all disk resources over to
this node and retry this operation.
```

There are several reasons this pop-up may be displayed:

Reason 1: A cluster disk resource may not be online to the specific node being cleaned.

Resolution: Either access the Cluster Administration GUI and move the disk resource onto the node to be cleaned, or use the MOVE command from the command prompt. Disk resources within the cluster that are not pertinent to the specific node being cleaned do not need to be moved.

Reason 2: Prior to either listing or cleaning registry keys, the BC Windows Registry utility verifies all cluster resources by issuing a SCSI inquiry command to each disk resource. If the disk resource does not respond (even though this disk appears to be online to the node to be cleaned), there may be issues with the disk or instability within the SAN.

Resolution: Check the disk, subsystem, and SAN fabric to ensure proper operation, and re-run the utility that created the failure.

Reason 3: After evicting a specific cluster node, the BC Windows Registry utility continually pops up a dialog box, failing the required disk resource on the local machine.

Resolution: The BC Windows Registry utility will not continue because the node has been evicted without the Cluster Service being uninstalled. The BC Windows Registry utility assumes that all systems still processing the CLUSTER key in the HKLM key of the registry are doing so for a reason. Therefore, you must uninstall the Cluster Service or restore the cluster node.

Error: Windows couldn't find/load the following file `Winnt\System` `\Config\SYSTEMcd`

Description: When the Windows host is booted, this error message is displayed indicating that the registry has exceeded its maximum registry size of 16 MB. For detailed information, refer to the Microsoft KB article: Q269075 at: http://support.microsoft.com/default.aspx?scid=kb;en-us;269075.

Resolution: Follow procedures in "Recovering from reboot failures" on page 10, or use your company-specific recovery procedures.

Floppy disk error

Description: When running the BC Windows Registry utility, an error about the floppy disk is displayed.

Because a scan of the system is conducted to determine all active disk drives, sometimes specific hardware platforms return this error message.

Resolution: Click **OK** and continue with the operation.

Error: uninstall.exe is inaccessible/unreadable

Description: During installation of `RegClean_V1_1.exe`, a pop-up occurs indicating that the `uninstall.exe` is inaccessible/unreadable. This error occurs when the user logs onto the Windows system without the appropriate Windows rights to perform the install task.

NT Active Directory and Domain Policies may also prohibit Power users from installing software.

Resolution: Users must either be Administrators or Power users. Log off and on again using the appropriate credentials.

Disk information no longer present in Disk Management MMC

Description: If a dynamic disk is not present (inserted or online) in the operating system at the time of the initial scan/clean, the disk information may no longer be present within the Disk Management MMC. Because the BC Windows Registry utility is scanning and removing all offline resources within the registry, if a dynamic disk is not active, sometimes the disk information is inadvertently removed.

Resolution: Reinsert and reactivate the dynamic disk. Disk Management will prompt you to Import Foreign Disks or reactivate the disk. After reactivating the disk, reassign the appropriate drive letter to the previously removed disk device.

Recovering from reboot failures

This section describes how to recover when the host system fails to boot because of an excessively large boot image. This section assumes you have previously backed up the registry. If the registry has not been backed up, go to "Step 2: Backup existing registries" on page 6 to perform the backup.

Select one of the following methods for recovery:

Restore
1. Boot from the Windows 2000 or Windows Server 2003 installation CD.

2. During the boot process, click **Recover Via the Recovery Console**.

3. At the command prompt, navigate to the directory `\WINNT\system32\config` and rename the system file (for example, `system.sav`).

4. Copy the system file from the directory `\WINNT\Repair` or `WINNT\Repair\RegBack` to the directory `WINNT\system32\config`.

5. Reboot the system.

Repair
1. Boot from the Windows 2000 or Windows Server 2003 installation CD.

2. When prompted, click the **Repair** process.

3. When prompted for an Emergency Repair Disk (ERD), either:

   ■ Click the **Escape** option to repair without an ERD, or

   ■ Insert the appropriate ERD and click **Restore all Settings**.

4. Reboot the system.

Reinstall the OS
1. Reinstall the operating system.

2. Restore the registry by importing saved registry keys, using tape backup, or ASR.

   When using tape backup, click **System State Data**.